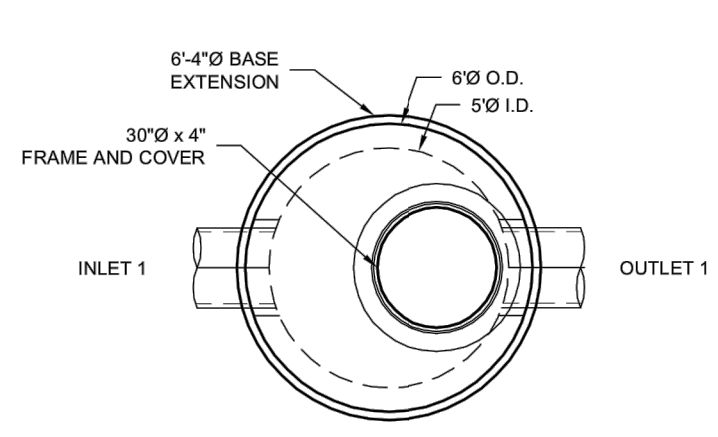
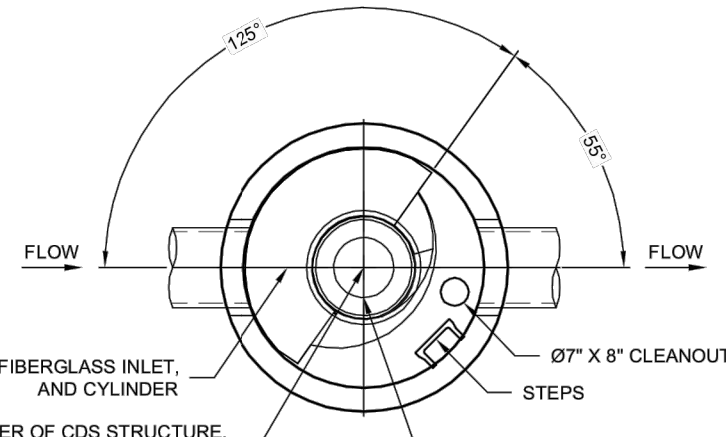


STR 156



PLAN VIEW



SECTION A-A

MATERIAL LIST (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	FIBERGLASS INLET AND CYLINDER	CONTECH
1	3000 micron, 7" O.D. x 2.35" SF SCREEN	CONTECH
1	3/16" INCH PVC HYDRAULIC SHEAR PLATE*	CONTECH
1	KORAN-SEAL 5206-24L BOOT W/ADAPTER CDA-18L	CONTECH
8	STEP	CONTECH
1	87" X 8" CLEANOUT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	30" X 4" FRAME & COVER, EJ4H1600484, OR EQUIV.	CONTRACTOR

*SEE HYDRAULIC SHEAR PLATE DETAIL.

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - COS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
 - DESIGN LOADING - AASHTO H20.
 - DESIGN SPECIFICATION - ACI 308.
 - JOINT SEALANT SHALL CONFORM TO ASTM C-880 OR ASTM C-443, SUPPLIED BY PRECASTER.
 - CONCRETE MINIMUM STRENGTH - 5,000 PSI AT 28 DAYS.
 - EARTH COVER VARIES FROM 0' MIN. TO 2' MAX.
 - GROUND WATER ASSUMED TO BE AT OUTLET INVERT ELEVATION. ACTUAL ELEVATION TO BE CONFIRMED BY ENGINEER OF RECORD. CONTECH MUST BE NOTIFIED IF ACTUAL ELEVATION IS GREATER THAN THE OUTLET INVERT ELEVATION (STRUCTURAL CONSIDERATIONS).
 - CONCRETE SHALL BE TYPE I OR TYPE II CEMENT.
 - SOME HIDDEN LINES MAY BE OMITTED FOR CLARITY.
 - IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE JELLYFISH STRUCTURE COMPONENTS (LIFTING CLUTCHES PROVIDED).
 - PIPE OPENINGS SHALL BE STENCILED "INLET" OR "OUTLET" AS APPROPRIATE.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO GROUT BETWEEN GRADE COLLARS TO REQUIRED GRADE.
 - CONSTRUCTION JOINT - (1) ROW 1" DIA. BUTYL RUBBER, ALL JOINTS TO BE GROUTED WITH NON-SHRINK GROUT, INSIDE AND OUT (BY CONTRACTOR).
 - WATERTIGHT - STRUCTURE IS WATERTIGHT. WATERTIGHT STRUCTURE IS DEPENDENT UPON SUCCESSFUL INSTALLATION OF INLET AND OUTLET PIPES (BY CONTRACTOR).
 - ANNUAL SPACE BETWEEN PIPE AND HOLE TO BE FILLED BY CONTRACTOR WITH AN APPROVED NON-SHRINK GROUT OR CONCRETE (AS SPECIFIED).
 - FABRICATION TO BE IN CONFORMANCE WITH THE LATEST EDITION AND ADDENDUM OF THE MSHA STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
 - PERSONNEL ACCESS INTO THE CDS SHOULD ONLY TAKE PLACE IN THE CASE OF DAMAGE TO THE UNIT REQUIRING REPAIR AND ONLY AFTER ALL WATER HAS BEEN PUMPED OUT. ALL MINOR AND MAJOR MAINTENANCE ACTIVITIES TO REMOVE ACCUMULATED DEBRIS, OIL, AND SEDIMENT ARE DONE FROM OUTSIDE OF THE UNIT USING SPRAY EQUIPMENT IN CONJUNCTION WITH A VACUUM OR PUMP TO REMOVE MATERIAL FOR DISPOSAL.
 - PRECAST PLANT IS MCDOT APPROVED. GILLESPIE PRECAST.

CONTECH
DRAWINGGILL
LAYOUT 1H
2020-5-10
5788 / 433079CDS2020-A-C, 646729-40
GAITHERSBURG CLUSTER
ELEMENTARY SCHOOL #8
GAITHERSBURG, MD
for SYSTEM, 156THE UNDERSIGNED HEREBY APPROVES THE ATTACHED
(5) PAGES INCLUDING THE FOLLOWING:

- PIPE STORAGE = 5,344 CF
- MAINLINE PIPE GAGE = 14
- WALL TYPE = SOLID
- DIAMETER = 72"
- FINISH = ALT2
- CORRUPTION = 5x1

CUSTOMER DATE

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DRAWING72"Ø UNDERGROUND DETENTION SYSTEM - 646729-050
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GAITHERSBURG, MD
SITE DESIGNATION: SF-2

NOTES

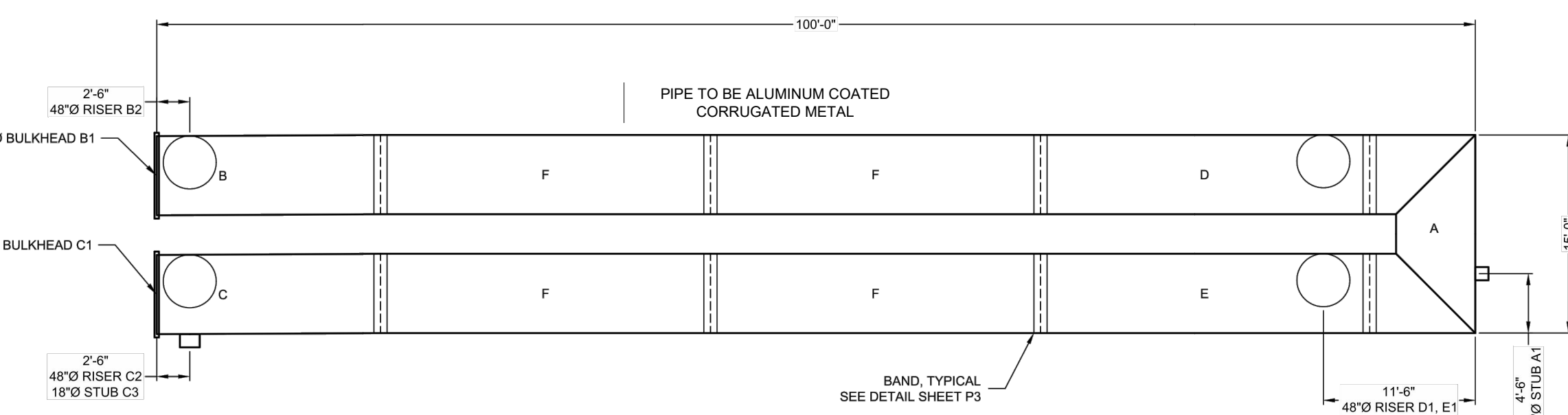
- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE.
- ALL ELEVATIONS, DIMENSIONS AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD (EOR) PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A886.
- ALL RISERS AND STUBS ARE 20" X 12" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE AS REQUIRED, BY CONTRACTOR.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAIL PROVIDES NORMAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL ACCESS CASTINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE NOT SUPPLIED BY CONTECH.

STUB INFORMATION

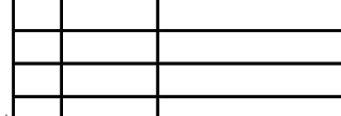
PIECE	STUB INVERT	SYSTEM INVERT
12"Ø STUB A1	456.20	456.20
18"Ø STUB C3	460.70	456.20

RISER INFORMATION

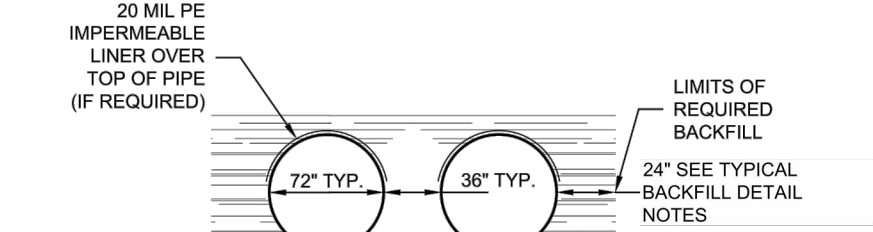
PIECE	RIM ELEV.	SYSTEM INVERT
48"Ø RISER B2	467.83	456.20
48"Ø RISER C2	467.93	456.20
48"Ø RISER D1	467.80	456.20
48"Ø RISER E1	467.90	456.20

ASSEMBLY
SCALE: 1" = 10'
PIPE STORAGE: 5,344 CF
LOADING: H20
PIPE INV. = 456.20±

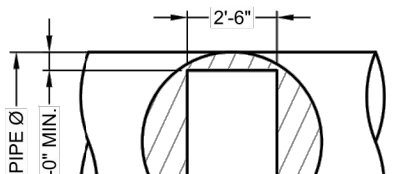
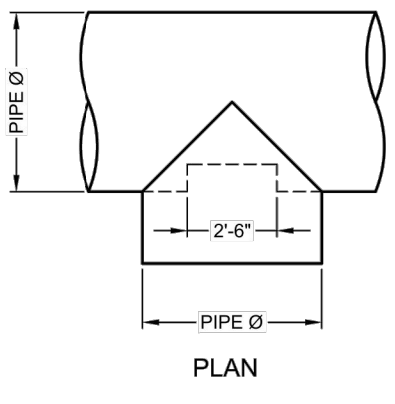
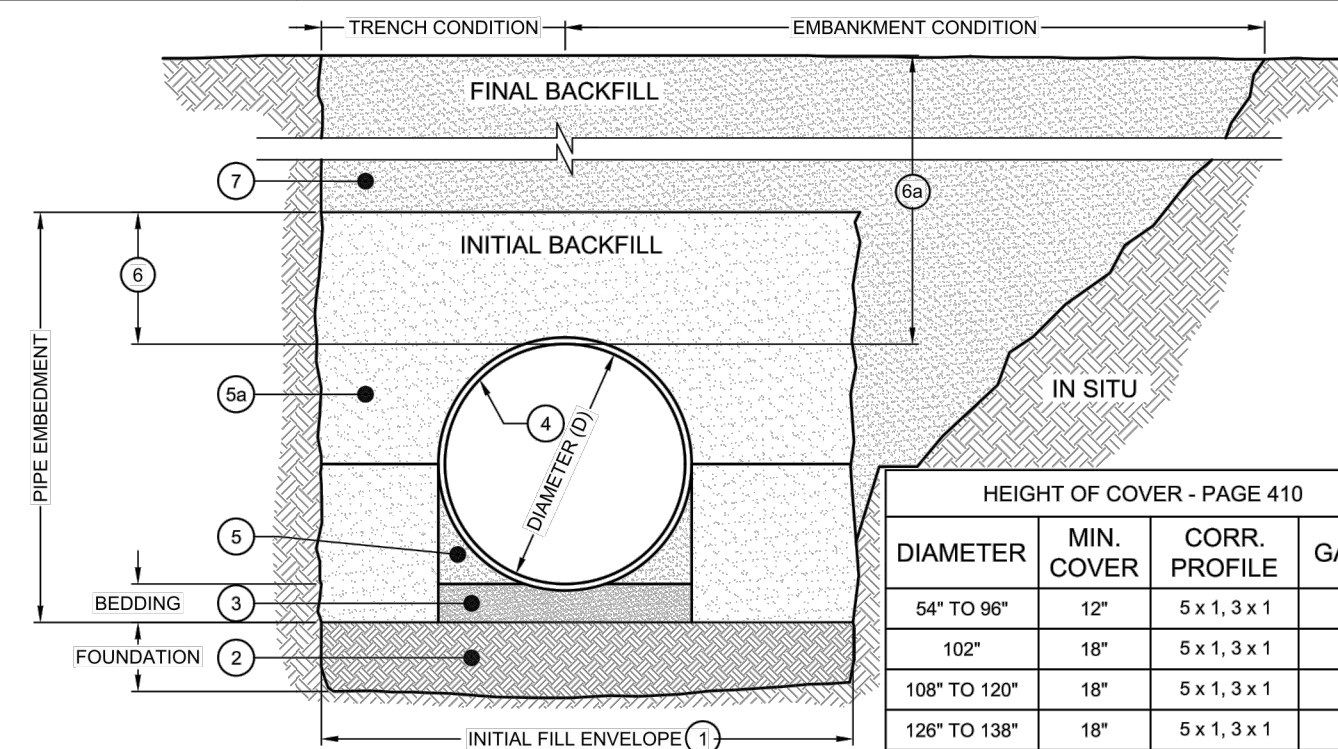
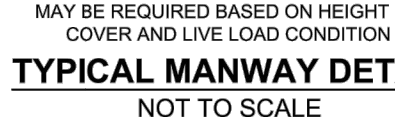
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646729	050	8/13/2020
DESIGNED	CHECKED	APPROVED
BAB	BAB	BAB
SHEET NO.	OF	
P1	5	

TYPICAL SECTION VIEW
NOT TO SCALE

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PRODUCT, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

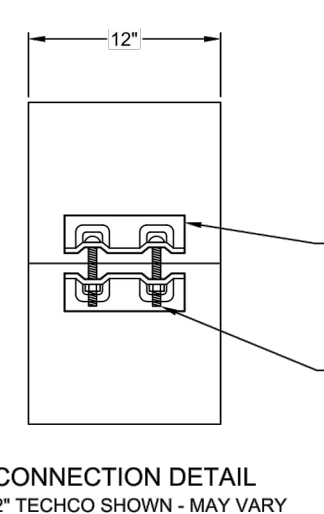
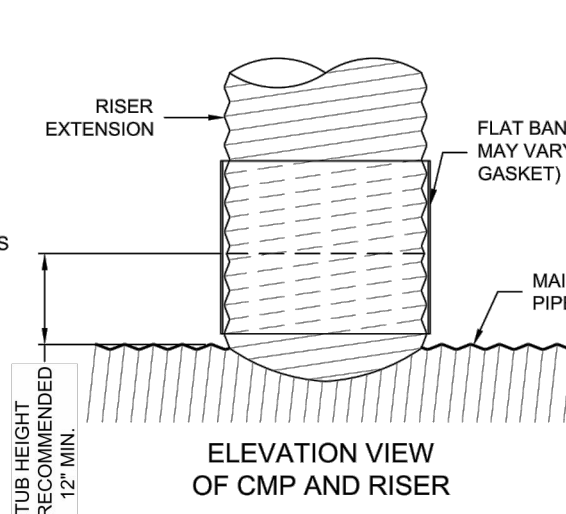
TYPICAL MANWAY DETAIL
NOT TO SCALE

BACKFILL REQUIREMENTS FOLLOW THE GUIDELINES OF NCSPP (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) CORRUGATED STEEL PIPE DESIGN MANUAL.

- MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT (PAGE 509).
 - THE MANUFACTURER'S SUGGESTED MINIMUM VALUE IS 1.80-12'.
 - THE FOUNDATION UNDER THE PIPE MUST PROVIDE BOTH LONGITUDINAL AND LATERAL SUPPORT (PAGE 493).
 - ENGINEER TO DETERMINE IF BEDDING IS REQUIRED. PIPE MAY BE PLACED ON THE TRENCH BOTTOM OF A RELATIVELY LOOSE MATERIAL THAT IS EITHER FLAT OR SHAPED TO FIT THE BOTTOM OF THE PIPE AND A DEPTH OF 1/2" PER FOOT OF FILL HEIGHT (B3), 24" MAX (PAGE 490). THE MINIMUM PARTICLE SIZE IS NOT TO EXCEED 3" IN DIAMETER. UNSUITABLE MATERIAL SHOULD BE OVER-EXCAVATED AND REPLACED WITH A 4" LAYER OF WELL GRAINED & GRANULAR STONE FOR THE MATERIAL DESIGNATION (PAGE 496).
 - CORRUGATED STEEL PIPE (CSP) (HEL-COR).
 - HAUNCH ZONE MATERIAL SHALL BE PLACED AND UNIFORMLY COMPACTED WITHOUT SOFT SPOTS (PAGE 511).
 - INITIAL BACKFILL FOR PIPE EMBEDEDMENT SHOULD, PREFERABLY, BE GRANULAR TO PROVIDE GOOD STRUCTURAL PERFORMANCE (PAGE 507) AND COMPACTED TO MIN. STANDARD PROCTOR PER AASHTO T-99. MAXIMUM PARTICLE SIZE NOT TO EXCEED 3" (PAGE 511). ALL LIFTS SHALL BE PLACED IN A CONTROLLED MANNER, 6" TO 12" IN DEPTH AND COMPACTED BEFORE ADDING THE NEXT LIFT, AND NO MORE THAN 24" OR ONE-THIRD OF THE RISE (WHICHEVER IS LESS) TO BE DIFFERENCE SHALL BE PERMITTED. (PAGE 510).
 - INITIAL BACKFILL ABOVE PIPE MUST MEET OR EXCEED THE MINIMUM COVER VALUE IN THE TABLE ABOVE. THIS BACKFILL IS TYPICALLY AN AASHTO M145 MATERIAL MEETING AN A-1, A-2, OR A-3 CLASSIFICATION. (PAGE 388).
 - TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL, HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF ROAD PAVEMENT (PAGES 494-495).
 - FINAL BACKFILL MATERIAL MUST PROVIDE SUPPORT AND STRUCTURAL STRENGTH. GEOTECHNICAL ADVICE IS RECOMMENDED IF COHESIVE MATERIAL IS CONSIDERED TO BE USED (PAGE 508).
- NOTES:**
- ENGINEER TO DETERMINE IF GEOTEXTILE SHOULD BE USED TO PREVENT SOIL MIGRATION INTO VARYING SOIL TYPES. (PAGE 507).
 - FOR MULTIPLE BARREL INSTALLATIONS THE RECOMMENDED MINIMUM STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE NO LESS THAN 24" FOR DIAMETERS- 48", THE MINIMUM SPACING IS DIAMETER/2 OR 36", WHICHEVER IS LESS. (PAGE 518).
 - BACKFILL USING CONTROLLED LOW-STRENGTH MATERIAL (CLSM OR FLOWABLE FILL) WHEN THE SPACING BETWEEN THE PIPES WILL NOT ALLOW FOR PLACEMENT AND ANGLE/CLAMP COMPACTOR OF THE BACKFILL. (PAGE 519).
 - CONTACT YOUR CONTECH REPRESENTATIVE FOR NON-STANDARD SPACING.

TYPICAL BACKFILL DETAIL
NOT TO SCALECONTECH
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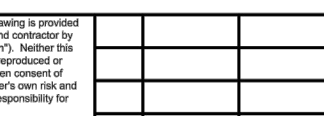
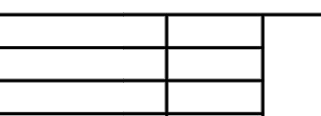
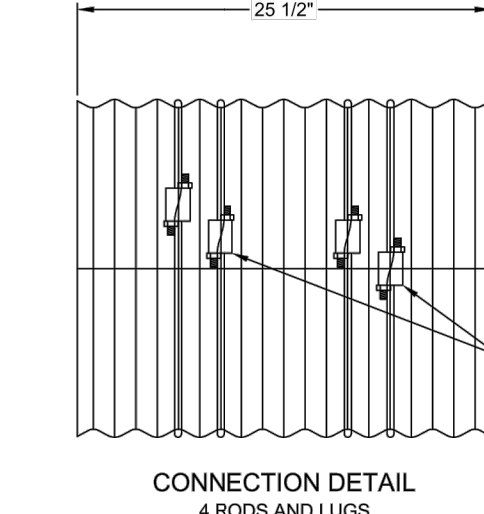
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SHEET NO.	OF	
P2	5	

CONNECTION DETAIL
7 1/2" TECHCO SHOWN - MAY VARY

ELEVATION VIEW OF CMP AND RISER

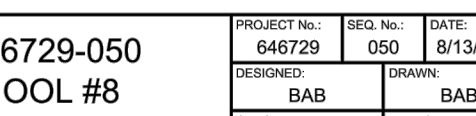
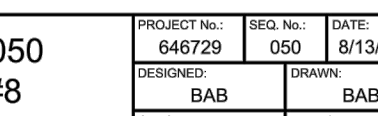
PLAIN END CMP RISER PIPE

- GENERAL NOTES:
- DELIVERED BAND STYLE AND FASTENER TYPE MAY VARY BY FABRICATION PLANT.
 - JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
 - BAND MATERIAL AND GAGE TO BE SAME AS RISER MATERIAL.
 - IF RISER HAS A HEIGHT OF COVER OF 10' OR MORE, USE A SLIP JOINT.
 - BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
 - 12" THRU 48" 1-PIECE
 - 54" 3-PIECES
 - ALL RISER JOINT COMPONENTS WILL BE FIELD ASSEMBLED.
 - MANHOLE RISERS IN APPLICATIONS WHERE TRAFFIC LOADS ARE IMPOSED REQUIRE SPECIAL DESIGN CONSIDERATIONS.
 - DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES.

12" RISER BAND DETAIL
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PROPOSAL
DRAWINGCONNECTION DETAIL
4 ROOS AND LUGS

2 2 3/8"x1/2" RIVETED PIPE

- GENERAL NOTES:
- JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
 - BAND MATERIALS AND/OR COATING CAN VARY BY LOCATION. CONTACT YOUR CONTECH REPRESENTATIVE FOR AVAILABILITY.
 - BANDS ARE SHAPED TO MATCH THE PIPE ARCH WHEN APPLICABLE.
 - BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
 - 12" THRU 48" 1-PIECE
 - 54" THRU 80" 3-PIECES
 - 102" THRU 144" 5-PIECES
 - BAND FASTENERS ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDS.
 - ALL CMP IS REROLLED TO HAVE ANNUAL END CORRUGATIONS OF 2 2/3"x1/2"
 - DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
 - ORDER SHALL DESIGNATE GASKET OPTION, IF REQUIRED (SEE DETAILS ABOVE).

10-C BAND DETAIL
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SHEET NO.	OF	
P3	5	

ARCHITECT

9211 CORPORATE BLVD, SUITE 340
ROCKVILLE, MD 20860
301-770-8177(P) 301-330-3224(F)

CIVIL

MACRIS, HENDRICKS &
GLASCOCK
9220 WIGHTMAN RD, SUITE 120
MONTGOMERY VILLAGE, MD 20886
301-670-0840(P)STRUCTURAL
COMPREHENSIVE
STRUCTURAL SOLUTIONS
9220 WIGHTMAN RD, SUITE 120
MONTGOMERY VILLAGE, MD 20886
240-200-5599(P)MECH/ELECTRICAL/PLUMBING
JAMES POSEY ASSOCIATES11155 RED RUN BLVD, SUITE 310
BALTIMORE, MD 21117
410-265-6100(P)

KITCHEN

NYIKOS-GARCIA
FOODSERVICE DESIGN, INC
18219-A FLOWER HILL WAY
GAITHERSBURG, MD 20879
240-683-9530 (P)

SUSTAINABILITY

DOO CONSULTING, LLC
531 PICCADILLY ROAD
BALTIMORE, MD 21204
443-653-3792 (P)CONSTRUCTION MANAGER
SKANSKA USA BUILDING INC.700 KING FARM BLVD, SUITE 200
ROCKVILLE, MD 20850
301-795-3100 (P)Professional Certification. I
herby certify that these
documents were prepared or
approved by me, and that I am
a duly licensed Professional
Engineer under the laws of the
State of Maryland, License No.:
16905, Expiration Date: 4.21.2022.

PROFESSIONAL SEAL:

PRINTS ISSUED

NO.	DESCRIPTION:	DATE:
1	BID DOCUMENTS	10/21/2020
2	ADDENDUM #2	11/25/2020
3	ADDENDUM #3	12/01/2020
4	ADDENDUM #4	12/03/2020
5		

TAX MAP FTR2
WSSC 22ANW09
PLAT 12762
9TH ELECTION DISTRICT
CITY OF GAITHERSBURG, MDGAITHERSBURG
CLUSTER
ELEMENTARY
SCHOOL #8MONTGOMERY
COUNTY PUBLIC
SCHOOLSSHEET TITLE:
SOIL EROSION,
SEDIMENT CONTROL,
AND STORMWATER
MANAGEMENT PLANPROJECT NO:
19007
DATE:
12/04/20
SCALE:
1"=30'SHEET NO:
C4.23
Sheet 19 of 28

SM#285890

SC019SF2DETAIL

SC#286335

STR. 156, SF-2 CMP, BEDDING & RISER